# MICRO MINUTE SCRIPTS

# THE FIRST COMPUTER BUG

If you've ever spent much time around computers, you've probably noticed that the folks that work with them have a language all their own... bits, bytes, nibble, interface and bugs.

In fact though, most of the computer jargon has been developed from simple origins. Take computer bugs for example. In the mid-40's, one of the first computers was being tested in the U. S. the machine was bulky and in fact, occupied most of the floor space in the large room in which it was kept. That computer had about the same amount of power as one of today's microcomputers which can be operated from a desk top. The circuits of the first computers consisted of vacuuum tubes similar to what might be found in an old radio. There were also metal contacts which would open and close to let an electronic signal pass through. One day during a test, the computer suddenly stopped. This was fairly common and usually meant a blown tube. This time, however, the problem was traced to a moth which had somehow become caught on one of the contact switches. Once the moth was removed, the computer worked fine. As was the habit, the problem was documented in the log book noting that it was a 'bug' which had been the problem. Since then, the term 'computer bug' has been used to symbolize any problem arising with a computer.

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

I'm really not up to a history lesson, but so many seem to think of computers as a new invention that I think it would be interesting to take a few pages from the diary of computer development.

Actually around for about 40 years, computers have been developed probably faster than any other invention in history and computers are one of the few products manufactured where the price continues to drop instead of going up. It is often said that if the automobile industry had advanced at the same rate as computers have, that today we'd be paying just pennies for cars that could reach speeds of thousands of miles an hour and would get hundreds of miles per gallon.

The first production model computer developed in 1946 was so large that it took up 1,500 square feet; that's virtually the living space of a small house! It weighed 30 tons and took so much power that they say the lights of Philadelphia dimmed when it was turned on, and its tubes failed at a rate of one every seven minutes. Today, we have personal computers available at 1/1,000 of the cost, yet they have hundreds of times more power and can fit on a kitchen table. And these computers are reliable to the point where they can be used for <u>years</u> without a breakdown.

Let's look at speed. Computers process information in their memories. When computers were first developed, their speed was measured in seconds or millionths of a second. The modern computers are so fast that in some cases, speed is measured in trillionths of a second! It's hard to believe that all this has happened in just 40 years.

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

## WHAT ARE THE PARTS OF A MICRO?

Most have heard the terms "hardware" and "software". I know, computer buzz words, but let's take a look at what these ones mean.

The term "hardware" simply means all the physical parts of the computer. The actual main computer unit which contains the brain or silicon chip is hardware. Other devices in the main unit which control the computer and help move the information around are also part of the hardware. There is also usually a keyboard similar to that of a typewriter and a screen which is similar to or can be a T.V. screen. If the information is required on paper a printer is used. To save or store information, a floppy disk or similar unit is used. All of this is the hardware.

With simply these items, though, a computer would be only pieces of plastic and metal. The computer needs instructions to tell it what to do. These instructions are the "software".

In a nutshell, software is the set of electrical codes which tell the machine what to do. Of course, there's different software to do different jobs. For example, the software for a video game tells the computer what to show on the T.V. screen and which way to move Pac Man when the handle is activated. So you see, it's really quite simple. Hardware is the actual machine and software is the instructions to run the machine. If you can kick it... it's hardware; if you can't... it's software.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

# A LOOK AT HOW TO PURCHASE A MICROCOMPUTER

So... you're planning to buy a microcomputer.

Before you buy, you may want to consider this....buying a micro is like buying anything, you'll want to be sure of the benefits you'll get for your money - to be sure the dollars you are spending are really worth it.

There are three types of benefits you can look at to help measure the potential benefit against the cost. Direct benefits could be additional sales or better sales efforts as a result of better information. For example, better communications might allow you to concentrate sales efforts on those areas which will really pay. Cost savings can also be a potential benefit. Perhaps you'll be able to save on salary costs or long distance telephone charges could be reduced by using your computer to do electronic mail. Generally, you will be able to cut costs in many areas of your operation by getting rid of inefficiencies.

The most difficult benefits you'll have to consider are those you can't see, the intangibles. Having a microcomputer can lead to credibility and respect from your customers and business associates. You will improve customer relations by supplying information faster - the intangible benefits are quite endless.

Think it over - weigh the benefits and when your satisfied that the time is right - go for it!

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

**BUYING A MICROCOMPUTER - THE COSTS, THE WHOLE COSTS AND NOTHING BUT THE COSTS**

When you're thinking about buying a microcomputer, as with buying most anything, you'll want to make sure the benefits are going to outweigh the costs. So, just what does the cost of a microcomputer really include?

By phoning a computer store, reading an ad or seeking help from a professional advisor, you can easily determine certain costs. You'll get an estimate of the cost of the physical computer and any software or programs you'll need to run it. Then in addition, you'll be able to determine the costs of paper supplies, printer ribbons and all the other support items you'll need. But is that all there is to it? Really, how many of us buy a car and expect that the cost of the car is all there is to pay? No one.

But, unlike gas and oil, the additional costs in owning and operating a microcomputer may be difficult to determine. The most difficult "hidden cost" you will have to determine, is that of the investment of time you'll have to make to learn how to use the computer. Time is money. The question of training time is one for which there's no pat answer but computer developers are constantly coming up with ways to make the job simpler - the rest is up to you.

Buying a computer is a substantial investment, make sure the benefits outweigh the costs before you take the plunge, then Happy Computing!

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

# USER FRIENDLY SOFTWARE

Like every industry, the computer industry has its own set of buzz words. We hear words like "bit", "byte", "nibble", "interface" and so on. For anyone interested in getting into computers for home or business though, there's one buzz word you'll want to hear - "user friendly"!

Computer developers have recognized that not everyone wants to converse in computer lingo. User friendly software has solved the problem by allowing conversation in simple everyday english so that most anyone who can read can use it without much difficulty. As with any product, some user friendly software is better than others. If you're shopping for software there <u>are</u> features to look for to make sure that you and your user friendly software <u>stay</u> friendly. With truly user friendly software, you shouldn't have to know how to program a computer to use it nor should you have to be familiar with any special machine commands unless they're clearly detailed in the manual, and by pressing one button you should be able to get guidance and help from the computer. So.... good user friendly software should be easy to understand, written in plain english or even pictures. With carefully purchased user friendly software you'll be off and running in no time, and who knows, maybe someday user friendly software will replace Fido as man's best friend.

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

# WHAT TO BUY IN COMPUTER MAGAZINES

As does any hot new item, computers have given good cause for magazine publishers to produce what has become an unbelievable number of computer magazines. There are actually hundreds available, some dealing with most anything that is computer related and others which focus on specific topics or even specific computers.

It's difficult to know which magazines to buy and I guess that decision depends very much on just where you stand in the whole computer explosion. If you own a computer or if you've decided to buy a particular computer, then you'd definitely be interested in a magazine on that particular machine. Chances are you'll pick up valuable tips and useful information.

But what if you're just curious about computers and you just want to be able to read something that will teach you a bit and satisfy your curiosity? There's no doubt that this kind of magazine is available; finding the right source, though, is the tricky part.

Rather than just buying any one, take a minute to scan through the magazines. If it looks the least bit technical - drop it. Some magazines are dedicated strictly to the computer technician. Take a look at the headlines and articles. Are they easy to read and do they look like the kind of material you are interested in? And last but not least, beware of dishonest magazines. It's easy to be fooled by magazines that look like they're produced by the computer manufacturer when, in fact, they are not. Getting a good computer magazine is like anything else, you have to shop around and your local library is probably as good a place as any to start.

I'm Jim Carroll, with Thorne Riddell, Chartered Accountants in Halifax.

## INTERNAL ELECTRONIC COMMUNICATIONS

For computer owners, the world these days is at our fingertips. I'm talking about the kind of instant electronic messages which are being sent back and forth from huge computer services.

There are two large services based in the U. S. called "Compuserve" and "The Source". Members of the service can read a newspaper, check airline schedules, shop, view news telexes, send mail to a computer friend, read your horoscope and do a countless number of other activities from their computer at home or in the office.

Once you're a member of one of the services, you'll need only three things to get started - a computer - a modem and a common telephone. The services usually charge by the hour, but that's it .... you're not paying long-distance telephone charges on top of it. At the moment, the hourly rates can be as low as $10 per hour. These kinds of services are excellent for business or just general information use and as a member, you literally have access to THE MOST up to date information from dozens of categories from all over the world.

I'm Jim Carroll, with Thorne Riddell, Chartered Accountants in Halifax.

Databases - well, what is a database anyway? The fact is you probably already have one. A database is simply a system by which you record certain information so that later you can refer to that information to answer certain questions.

If you use a Kardex system to keep track of inventory or a file for maintaining mailing addresses, you already have a database. You could have that same information on a computer database and have easy access to simple questions or do more complex calculations instantly.

For example, let's say you operate a sporting goods store and that you use the database to keep track of inventory. With a computer database you could ask the computer to give you a list of a certain brand name of fishing line of which you have six or less in stock... or.. you could ask for a list of all stock items retailing at, say, $200 or less for which you haven't had a sale in the last three months. The options are endless.

Actually, database programs were initially developed for the large computer, but today they're available for even the desktop size microcomputer. A database program is not as easy as some to learn, but if you need access to certain information and you're dealing with a large amount of information, a database is ideal.

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

Investment brokers and in many cases individuals spend a great deal of time tracking investments including term deposits, stocks, bonds and commodities. Maintaining a profitable investment portfolio either for yourself on a client can be a time consuming task. At long last microcomputers have come to the rescue to make those tasks of calculation and comparison easier and much faster.

Some examples include these:

There are programs that will keep track of all your investments and investment transactions. This kind of program is like some accounting systems but it also allows you to easily maintain additional details such as serial numbers, purchase date, selling date, number of shares and so on.

The second kind of programs are those which allow you to access databases to obtain current or historical stock prices. With this, you could dial your computer to a database and find the current price for virtually any stock on any exchange.

Then of course there are tax calculation programs that will compute capital gains or losses on stock transactions and estimate the taxes based on the details of the transaction.

Finally, there are investment decision assistance programs which allow you to input historical information on investments along with information developed from formulas to assist you in the decision of whether or not to buy certain investments.

The important thing to remember with all of these types of programs is that the computer can't give you any hot tips or inside information. A computer can't predict the future. The programs can be excellent though as a record keeper of your investments and it can save substantial amounts of time in calculations for review of information.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

We are continuing the conference. We intend to stay in touch through this electronic communication system to see what will develop in the next several years. We are all wondering where we will fit in in the coming revolution.

So you see, the fascinating world of computers is touching all corners of society.

I'm Jim Carroll with Thorne Riddell, Chartered Accountants in Halifax.

**ELECTRONIC MAIL**

There's a revolution happening in the communications industry as we know it today.

Currently anyone with a computer and a certain additional piece of equipment called a "modem" can contact almost any other computer in the world. I myself, have communicated with computers in L.A., New York and various other places and the contacts were all legal - not the "Wargames" variety.

To talk to other computers, you hook up through a simple phone line and the two computers communicate back and forth as their operators type messages on their keyboards. There are many types of electronic communication services available. The one I use is an electronic mail service which allows me to send mail to any of our company's computer staff right across the country.

To do this, I just hook up to the electronic mail service; indicate who I want to send the letter to and type the letter onto the screen. Then, by pressing a few more keys, my message is sent within seconds. When the person receiving the letter hooks into the service, they are notified that there's a message or mailing waiting for them from me. Of course, if they were using their computer when I send the letter, they would be able to read it immediately.

Electronic mail allows me to send a message from Halifax to Vancouver in just seconds instead of waiting the five or six days the post office takes.

I'm Jim Carroll, with Thorne Riddell, Chartered Accountants in Halifax.

## MICROCOMPUTERS AND POLITICS

This year marks the first time that microcomputers have been extensively used in assisting a presidential candidate.

In any election, candidates find that one of the most important rungs on the ladder to victory is information.

A microcomputer can be used in politics in many ways; it won't shake hands and it won't kiss babies, but it can do a wonderous variety of other tasks.

Take the campaign of one U. S. Democratic presidential nominee. He's now out of the race, but while he was in it, microcomputers provided him with valuable assistance. In his campaign, micros were used as one might expect for accounting, cash flows and the usual financial projections. In adition to these types of tasks however, the computer was used in other ways. A direct mail program was developed which prepared over 3 million letters and brochures for mailing.

A system was developed that detailed the position of every other candidate on practically every issue. As a result, the campaign staff could determine very quickly where a certain candidate stood on education, the federal deficit or any other subject. Electronic mail was also extensively used, as well as a database of information on the reporters covering the candidates.

This would appear to be every imaginable political usage for a computer, but actually with the portable microcomputer, various other uses could have been possible. The only thing that really held back any further use was a security concern. Apparently old memories of Watergate caused them to be extra-cautious of the information on their floppy disks.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

# COMPUTERS AND THE MODERN OFFICE

It's being said everyday that computers are revolutionizing the office, and to demonstrate I'll use myself as an example.

I have a portable computer, weighing twenty one pounds, with two disk drives which allow me to store the equivalent of 400 pages of information. It also has a modem which allows me to communicate with other computers by phone and a memory with the speed and size to rival that of large computers of ten years ago.

As an accountant my day might include analizing financial information, writing memos or letters, or maybe training others how to use the microcomputer. To analyse financial information I use a spreadsheet program for the computer which allows me to look at the information in a multitude of ways in a tenth the time it would take by hand.

We'll say you came to my office to do some tax planning. I could call up my personal tax program and have an estimate of taxes payable within seconds. Then I could add in that raise, you figured you'd get in the fall and press a few keys to give you the new rates and amounts of tax payable, again ... all within seconds.

My computer sits on my desk all day and anytime I have a letter or memo I want to send I just type it onto the screen. I can make corrections and changes as easily as I could with a typewriter and when I'm satisfied with the text, I can print the letter and have it mailed. There's no need to hand write the letter, have it typed, make changes and retype. I can do it all directly from my computer.

As a matter of fact sometimes I don't even have to depend on the postman. If the person I'm sending the letter to has the right computer hook up, I can dial up the electronic mail system by telephone and send the letter without even the necessity of paper!

In the office of the future, we may have to look hard to even find a notebook. Probably most of the information we need will be available on demand through computer. Look out stationers, the computer age has arrived.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

The development of the computer spreadsheet revolutionized the microcomputer industry. It was with the introduction of computer spreadsheets that computers finally became usable without a lot of training time and specialized programming knowledge.

A spreadsheet is especially useful to the business person. You might think of a computer spreadsheet as a large sheet of columnar paper which is stored inside the computer. Whenever you would use that columnar paper to manipulate numbers or other data, the computer spreadsheet could be helping you and getting the job done a lot faster than you can do it manually.

With the computer spreadsheet, you set up the basic information you'll need to make your decisions and then the fun begins!

With the computer spreadsheet, you can now manipulate the numbers to look at what we call "what-if" situations. To look at an example, you could design a forecast of your estimated cash flow with a spreadsheet and then, just by pressing a few keys, you could predict the change in a loan balance if say, salaries were to increase by 10%. Now, let's say the loan balance you'd predicted was in excess of the line of credit available to you. By using the spreadsheet, you could instantly calculate how much additional sales the company would have to generate to get back to an adequate cash flow situation again.

The computer spreadsheet is really quite simple to learn to use and it can be a valuable tool in running a business as well as a household.

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

**ACCOUNTING PROGRAMS**

One of the most common reasons businessmen are buying microcomputers is to handle accounting work.

There's no doubt that by using a computer, the task of preparing and posting the books can be substantially sped up. Computerizing your accounting can also facilitate rapid changes to accounting data and can generally make the job simpler. As a Chartered Accountant though, I've seen more than my share of real messes created by people who have decided to computerize without sufficient knowledge of the books, the computer program or sometimes both!

In the 60's, when large companies just started using computers, some major mistakes were made. The public became familiar with the problems through horror stories of utility bills and the like and temporarily computers carried a bit of a stigma. The same kinds of mistakes can, and are, still being made with the large computers and the more modern microcomputers. The source of the problem, however, can always be tracked back to human error rather than computer error. Either someone has designed a poor program or the staff has failed to perform procedures to ensure that the information going into the computer is correct.

There's an old saying in the industry: "GIGO" - "Garbage-In-Garbage-Out".

If you're considering computerizing your accounting - be completely sure of what you're doing and go slowly. This way, you're sure to have nothing but pleasant experiences with your computer.

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

**MICROCOMPUTERS FOR WORD PROCESSING**

If you're still using the traditional systems, you're very much aware of just how long it takes to prepare a letter from start to finish. First the writing, or dictating, then the typing and review. If any mistakes are found, it's back to the typist where, if she's used a traditional typewriter - it's not uncommon for the whole letter to have to be retyped. Well.... for anyone interested in reducing the amount of time and money spent producing correspondence, microcomputers are the answer!

By using a word processing program with your micro, the letter can be typed for reference and review onto the screen. From the screen, the letter can be checked and any corrections made before it's even printed. Once completed, the letter can be stored on a disk for the usual file reference and should you later wish to send a similar letter, the original can be recalled and the changes made without redoing the entire letter.

Some word processing programs even have built in dictionaries which can be used to automatically correct spelling. The dictionary feature will also offer lists of words which can be used as an alternative for those you originally had chosen. A feature like this can help improve the overall language level of any and all correspondence.

I do all of my day-to-day correspondence on my micro without any secretarial assistance. For many, learning to type will be the only thing standing between you and your micro and when you look at the time and money that could be saved, I know those typing lessons will start looking more attractive all the time.

I'm Jim Carroll, with Thorne Riddell, Chartered Accountants in Halifax.

So, you've decided to buy a computer and you're wondering what to do next.

Like buying a car, you'll need to ask a lot of questions and of course take a test drive. Visit a local computer store, then get together with a friend or associate who already has a micro. Using the program or type of program you have in mind, explore the capabilities of the program, learn what it can do and how easy it is to use. Then.... consider the training time that you'll need to learn to use the computer and check out the kind of dealer support you'll have after you make the purchase.

Next, look at the actual computer. Make sure you're getting a machine that is appropriate for what you want it to do. If you want a business computer, look at only those for business users. An inexpensive home computer will often be unsuitable for most office applications.

Most computer systems are sold in modules which basically means you get the system and the keyboard for one price, while the screen, printer and other attachments are available separately. So .... ensure that either you're getting all that you need initially or that additional components can be added.

Finally, look at whether your system can be upgraded by expanding the memory or moving to a larger model. Your needs may expand but you'll likely still want to use your old programs so make sure that compatible equipment is available.

It's impossible to get all the facts in a minute or two but don't let the advent of computers scare you. Buying a computer is a challenge which you eventually conquer - getting there just has to be viewed as half the fun!

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

**TRY BEFORE YOU BUY...COMPUTER SOFTWARE**

Nobody buys a new car without first taking a test drive and buying software should be approached in the same way, making certain of two things: that the software will really do what you need it to do and that you'll be able to use it yourself at your level of computer knowledge. Nothing's worse than buying new software only to find that you need a programmer or a computer expert to figure out how it works.

There are a couple of things you can keep an eye out for when you're shopping for software to help ensure that you end up with something that's appropriate. Use the software a few times to find out just how it works and if possible sit in on demonstrations provided by the manufacturer. This will give you a good idea of the level of computer knowledge that's necessary to use the software.

Then...take a look at the manual that's provided with the software to ensure that you get concise, easy to understand instructions. This way, you'll always have a trusty assistant to help you with any difficulty you may encounter. Some of the most popular programs on the market even have help facilities built right into the program.

The next step is to talk to others who are actually using the program. There can be no better reference than if someone says, "Sure I use that program, here's what I'm doing with it..."

And of course last but not least...ask lots of questions. Talk to the people in the computer stores, friends, your accountant or virtually anyone you think may have an opinion. Computer software can be expensive. So...do your homework before you rush out to buy any new software...it pays off every time.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

# ARTIFICIAL INTELLIGENCE

Everybody wonders whether computers will ever be able to think like us.

There's a lot of research going on to develop a generation of computers that will be able to think in a logical manner. The research goes by the names of fifth generation computers and artificial intelligence.

Artificial intelligence simply means that developers are trying to produce a computer to analyze information in such a way that it's similar to the thought process, you and I go through when we analyze a problem.

There are already some universities and research organizations that have had some success.

One venture has been the development of a system called MYCIN, a specialized program used to diagnose meningitis. The developers developed a program that closely simulated the thought process a doctor would go through to diagnose the disease. To use the program, the doctor answers a series of questions posed by the computer, stating the facts of his tests. The program, based upon the responses, will branch to other series of questions, eventually offering a diagnosis. The program was tested against five experts. The computer was right in sixty-nine percent of the cases tested; the best expert was only right sixty eight percent of the time.

While it is not yet really practical, as a doctor diagnoses a patient just as quickly as does a computer, it did prove that it was possible for a computer to be programmed to pose a degree of human like logic. This is what the developers of artificial intelligence are striving for.

Artificial intelligence may mean the development of systems that will be able to process humanly impossible volumes of information but with a similar thought process to ours. The real benefit is that these computers, by being able to analyze much more information, will possibly be making better and faster decisions.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## COMPUTERS FOR TEACHING

One area where computers are really becoming popular is in education. Computers are being used to teach people of all ages to do all kinds of things.

School aged children may be already exposed to computers in the classroom and with the of desk top sized micro, children can use the computer right from their desks to learn whatever subject might be being taught.

There are even more interesting developments taking place. In the early 70's a University developed a number of courses intended to be instructed by computer. The courses were not computer oriented, but rather included all varieties of subjects. The students would receive their lecture at their convenience via the computer terminal. Then they would prepare their assignments and receive instructor's comments on the same terminal. The investment to run these types of courses cost hundreds of thousands of dollars and utilized large mainframe computers.

Within the last year a major computer manufacturer bought the courses and reprogrammed them to run on microcomputers. The courses are now available by two means.... you can buy a disk which contains all the course material and proceed in the usual way with your micro or you can opt for the second, perhaps more exciting choice.

You dial in to the Central computer with your micro via telephone line. The courses available range from astronomy to computer science; first grade reading to high school grammar. Really... there's something for everyone from about five years old upward. The nice part of this kind of learning experience is that you set your own pace.

To my knowledge, this service is the first of its kind to offer such detail. The reputation is of very high quality but, of course, the only problem from Halifax is the long distance phone charges. But this service is just the beginning, as time marches on, computers will become as commonplace in education as the blackboard is today.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

I'm often asked about just what software will do. My answer is always the same, "anything and everything". A computer without software is like a camera without a film ... useless.

There are two main types of software which are called "operating system software" and "application software". Operating system software tells the computer what to do in general terms. It is the operating software that gives the computer the direction it needs to take instruction from a keyboard or disk drive.

Application software, the second kind, is the set of instructions a computer needs to do a more specific task. Now you can write or design your own application software programs but you also have literally thousands of off the shelf application programs available to you so that you could stick to just utilizing them and not have to ever get into the design. Of the thousands available each falls into one of the basic categories of business, education, personal management, games and leisure or special application.

So for instance, you could get an accounting program that would serve nicely for business purposes or a chequebook program that would be perfect for home finances. Games range from the simple to the complex, from the arcade style game to the intellectual variety like the trivia game for computers. Education programs range from those for three and four year olds to those used to challenge and teach college students.

The variety of software is endless and when you start looking at special applications, the capabilities one has access to with a computer become astounding.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## COMPUTER HORROR STORIES OF THE EIGHTIES

We all remember the horror stories from the sixties and seventies as major corporations lost millions of dollars because of inadequate planning for their computers.

Well, even today, with the introduction of microcomputers, horror stories can and do still happen. Consider the following scenario. A small company department head feels that he is getting inadequate information so he goes and buys a microcomputer thinking it will solve the problem. He hires a programmer from a local university and begins to input the information he needs.

Several months later, he makes an important decision based on the information that he is getting from the micro. Within two weeks, he realizes that the decision was wrong, and that it will end up costing the company tens of thousands of dollars. Further investigation reveals that it was the information from the computer that was in error.

Undaunted, he calls the programmer. Well ... it seems the student has resumed his studies in some other province, so he hires another programmer, but is informed that the student left very little documentation and that it would take several more thousands of dollars to fix it.

He begins to reach a state of panic, wondering what he can do. At that point, the company Vice-president informs him that the whole company is going to be moving into the microcomputer age. However, the company will be purchasing a different type of micro, and as a result, none of the programs will run on his machine. As the company moves into the micro age, he will be left all on his own.

The story may sound far-fetched, but believe me, it isn't... I've seen it happen.

The lesson - if I can call it that - is, to avoid the mistakes made in the past, devote the necessary up-front time and effort in integrating microcomputers into your office systems.

With proper planning, microcomputers could well be the best thing that ever happened to your company.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## COMPUTER PRINTERS

Buying a computer for business purposes will usually mean that you'll need a permanent record of the information produced. A printer is the answer. There are many printers on the market and before choosing you'll need to consider several factors, namely making sure the printer meets your needs, that it will be fast enough and it will operate with the computer you have or plan to purchase.

First - define your needs in printing. There are two main types of printers...daisy wheel and dot matrix. The daisy wheel produces letter quality where the dot matrix although readable does not produce a typed-like product. Another concern is graphics. If you'll be needing graphic capabilities then fine but if not don't waste time looking at these models. They are significantly more costly.

The second concern is speed. The letter quality printer is significantly slower than the dot matrix. Consider the volume of information you'll need to print and roughly calculate how much time each printer would need to complete the task. You won't want to tie up valuable time printing a letter quality report if it is simply for say, internal use, when another printer could get the job done so much faster and free up additional valuable computer time.

The final point is to consider whether the printer will work with the computer you have or you plan to buy. Most popular printers will work with all types of computers with perhaps a few adjustments. But make sure that all the features of the printer will work with your micro for such things as underlining, large or small sized print and special characters.

I'm Jim Carroll of Thorne Riddell Chartered Accountants in Halifax.

# COMPUTER PHOBIA

I want to tell you about this new social affliction that's sweeping the nation. It's developed more in the past two years than ever before. It can strike anyone and there is no easy cure!

For those in the industry, the affliction is commonly known as computer phobia. There seems to be a lot of talk these days about the computer revolution.

Some people naturally begin to get a little apprehensive wondering just how to cope with the change and learn the new systems. Still others write the whole notion off as a waste of time. ALL of these people are showing simple symptoms of computer phobia which, when diagnosed, is little more than resistance to change. I might call it déja vu because, after all, haven't we been here before?

Society has proven its unwillingness to accept change time and time again with the advent of things we take for granted today like automobiles and televisions. And what's there to be scared of?

As Henry's loyal followers, most of us have learned to drive; some took longer than others and some had accidents along the way, but there's no question that Henry Ford set the pace for a whole new society.

Well, computers are the same and for those of us who are willing to set aside our doubts and inhibitions to try it, computers soon become a facinating new challenge. Look at children: their innocent minds, free of doubt and preconceived opinion are absolutely hooked on computers which they simply see as just another thing in this world of ours that they have to learn about and use. And that IS the key.

Computers are meant for us to use - we are in control and once we come to understand that fact, computers will be as common as televisions and cars.

I'm Jim Carroll, with Thorne Riddell Chartered Accountants in Halifax.

## COMPUTER GAMES - MORE THAN JUST A GOOD TIME

The biggest reason parents often hesitate before buying a computer for family use is that they think that the kids will end up only using it for playing games like "Pac-Mac". Somehow, these same parents see computer game playing as a complete waste of time.

It's true that microcomputers can be used for games and it's true that precious learning time can be lost to "Pac-Man", but computer games can also be very educational and can actually help you and your children to learn all kinds of things, including how to operate the computer!

As an example, let's look at a game called "Flight Simulator" - it teaches you how to fly and while it would meet the definition of a game, because it is fun and entertaining, it is more by far.

You have full 360 degree vision, which you can see by pressing a few buttons. The visuals are extraordinary. Looking out the window, which is actually simulated on the screen, you can watch as you leave the ground. It really looks like you are going up. And the program has been compared as similar to actual flight trainers.

What better way to learn to use computers than by taking the edge off that computer phobia by playing a game.There's actually a grown-up type game available that will do just that. With this game, you're a businessman. You start off with $500 and a job as the mail room clerk. The object is to become Chairman of the Board and a millionaire.

As you go, you learn to use the computer to handle the investments you are accumulating on your way up the ladder.

There are hundreds of these kinds of programs available. They're labelled as games and they are fun, but many are a real learning experience as well.

It's simply a matter of doing a bit of careful shopping before you buy.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

As fabulous as they are, it's easy to forget that microcomputers are machines and they can break down. Modern computers are extremely reliable but the trick is to be prepared for a breakdown anyway. Most micros are sold under a ninety day warranty which usually takes care of any initial problems. It's after that period that as the owner/operator you have to start worrying. Coping really comes down to four choices.

The first is to buy a maintenance agreement but in these cases you usually have to arrange delivery of the unit to the repair shop. This could mean you'll be without your machine for a few days at minimum.

The second is a maintenance agreement that provides delivery of the necessary part to you at which point you do the installing.

The third option provides for on-site service, where the repairman comes to you, and the fourth is to gamble, don't buy any maintenance agreement and hope that your machine never breaks down.

The choices may not look that difficult but if your micro is an intricate part of your business operation then the decision gets more and more difficult. But before you take the plunge, have a chat with your dealer and see what he can offer in terms of service. If he has experienced servicemen at reasonable rates, and he stocks repair parts, then you may not need an expensive maintenance agreement. If you can find this kind of winning combination and you take proper care of your equipment, you may have little to worry about. If a problem does arise, deal with it quickly. Waiting for the problem to fix itself will likely only compound your problems.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## HOME USE OF MICROCOMPUTERS

For the most part there are two main types of microcomputers now available - there are those for business use and those for home use. The differences between the two can be significant especially if you're thinking of buying one for business purposes.

A home computer generally has a memory of up to only 64 kilobytes, where business micros have at least 128. The storage device for the home equipment is usually a cassette-type device whereas the business variety utilizes a disk. Most of the home equipment is designed to be used with an existing T. V. set as a screen whereas the business oriented equipment usually either has a built in screen or supplies a separate screen as part of the initial purchase package.

Many of the home micros have software which is somewhat similar to that which is offered for the business machine, but due to the nature of the home micros, there are certain disadvantages in attempting to use the home software for business purposes.

The first and foremost is the fact that the memory size is usually too small to do anything terribly worthwhile from a business perspective. So while you could do some very simple cash flow budgeting, for example, the work would have to be very basic in order for the home equipment to handle it. And with something like, say, inventory storage the same holds true. The home equipment memory size falls short of being able to handle anything very complicated or lengthy.

I'm not trying to paint a dim picture of home computers - they're a fabulous learning tool and they can be very effectively used to perform some extremely useful functions in the home.

My point then is that if you're considering the purchase of a micro, buy the right machine to do the job you have in mind. Don't send a boy to do a man's work!

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## COMPUTERS TO MANAGE INVENTORY

One of the most significant but unseen costs in running a business is the cost associated with maintaining high levels of inventory. If you're overstocked you bear the interest cost to finance the goods. You also bear the extra storage costs as well as the costs to maintain information about what you have. And because the information is difficult to maintain, you often run the risk of carrying outdated stock simply because you didn't know you had it.

Conversely, if you try to keep the actual inventory low you'll avoid the direct costs but what about the cost to your reputation when you fail to supply customers because of inventory shortage.

You need to find a way to effectively and accurately manage your inventory and in this area computers can really help. With a computer you can keep track of exactly what you have so you'll know if it's too much or too little. You can set up a warning system so you'll be aware when you're getting particularly low on certain items. You can also have access to information on what's selling and what isn't.

As with any computer system, inventory programs available range from the simple to the complex. So keep in mind the time that will be involved in maintaining the system. Each computer entry takes time and you'll need to make the information input as simple as possible to save time but still keep a handle on things. If you're not careful a task that was designed to assist the business can become a monstrous headache and you could find yourself in an information overload situation. A decision to computerize inventory must be made with caution and careful consideration of <u>all</u> the facts.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## MICROS AND THE OLYMPICS

With the amount of time and money that goes into organizing the Olympics, it's perhaps not all that surprising that this year alot of the work is being done by microcomputers.

In the very early stages a corporate sponsor was lined up to donate 100 micros and training began. Initially, the micros were used for budgeting to hopefully keep the total costs down. Next, the micros were used to sort and store information pertaining to special diets, housing and all the other details connected with the arrival of 10,000 athletes and officials. The micros were also used in planning for ticket distribution, hotel room allocation and more.

In terms of planning, the micros have been invaluable but that's not where their job ends. During the games, the micros will be used to print security badges and daily reports. In addition, event scores will be calculated, transmitted and printed by the micros.

The press and the general public will also enjoy access to micros to keep everyone updated on the atheletes' biographies, athletic records, game scores and more.

The '84 Olympics will command the use of 100 micros and two mainframe computers. It's estimated that up to eight box cars of paper will be used.

Co-ordination for an event such as the Olympics is stupendous. This year, and probably henceforth, the microcomputer will be an important part of the process.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## SYMPTOMS OF A COMPANY IN NEED OF A MICROCOMPUTER

If you are a business owner or manager you've probably wondered how to know when it's time to consider computerization.

Certain symptoms do indicate the need for change in an information system perhaps including the purchase of a computer. First, if you've had changes, especially increases in the number of clerical staff and especially if the tasks they're performing are repetitive then you could likely increase efficiency by having some of the work done on a micro.

And what about the information you need? If you find yourself making decisions based on intuition because the facts are too difficult to amass from the files...then a micro could probably assist you, too.

If financial or other company information takes forever to prepare, <u>again</u> you could benefit from a microcomputer.

Time, spent or saved, relates to the bottom line. Increasing revenue and decreasing expenses means greater success for any company - and microcomputers are doing just that for more and more companies every day.

Statistics show that nine out of ten business failures are directly attributable to inadequate management and that the biggest specific problem is lack of information flow. Often the needed information is available somewhere, it's just difficult to get in terms of logistics and time. Again, microcomputers are helping to solve these kinds of problems for businesses every day.

Buying a microcomputer is a big step for any company but once you establish the need a big part of the task is already done.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## LEARNING TO USE A MICROCOMPUTER . . . MOUNTAIN ON MOLEHILL

A few years ago computer junkies were perceived as very technical individuals, but today you might well find a case of computer mania in your grocer, banker or neighbour. The passion is quickly catching on and for those who haven't been hit by the bug, the reason is usually a fear or lack of understanding of just how to approach the computer learning experience.

There is no doubt that without assistance, learning to use a computer could be rather frustrating but in fact the assistance you need to get going is readily available. Much like cooking, you can't become an expert by reading a book - you have to try it!

There are courses offered here in our own city. When you are shopping around, look for a course that offers hands-on experience and make sure you won't have to share the computer with a group. You need as much time behind the computer as you can get.

Universities and continuing ed programs offer programs that start at square one by helping you to overcome any fear you may have of computers and helping you to understand just what they can do. Of course, there are other ways to get your first exposure. If you have friends who own computers, pay them a call or visit the computer shows and experiment with the demo models.

However you choose to get acquainted with computers, keep in mind that you are the master. Computers are designed to serve you, not to overwhelm you. Once you take the plunge I know you'll see how computers can become a definite habit.

I'm Jim Carroll of Thorne Riddell Chartered Accountants in Halifax.

## COMPUTERS FOR TAX PLANNING

Every April normally sane people panic at the thought of the tax return deadline rushing to determine their tax position and to find all the receipts. Maintaining adequate tax records and doing adequate planning to reduce the tax bite are the two main components of this annual ritual and computers can help with both.

Programs called personalized chequebook programs have been developed for home computers to maintain sufficient detail so that you can see where any additional deductions might be. Of course, you'll still have to keep the receipts.

Self-employed businessmen often have significant problems and end up at year end sorting, adding and reviewing all the data necessary to file the return which robs them of valuable time. The chequebook program can really simplify the task and save time.

As an accountant, there is even a more interesting development. There are several personal tax programs available which permit much faster tax planning. For example, I can print the information for the current year, then I can go to the section for pension plans and see how much I could reduce the current year's tax bill by increasing the RRSP contributions. This kind of "what if" situation takes only seconds and can often save the taxpayer substantial amounts in taxes payable.

It's hard to say what will happen in the future in terms of computers and taxes, but I can see the day where one will be permitted to send their tax return on a computer disk. Just type in the information and when complete, mail the disk to Revenue Canada. I suppose then we'll get caught having to pay more postage to mail the disk than we would a letter.

I'm Jim Carroll of Thorne Riddell Chartered Accountants in Halifax.

## COMPUTERS .... WHERE FROM HERE?

In the 30's and 40's futuristic magazines like Modern Mechanix and Technocrat predicted the future suggesting that in the 80's skyscrapers would be doomed by underground cities and devices like the Electro-Ray tank and Radio Tube Trains would exist. But in all their predictions of the future, computers were never once mentioned.

Today, there is a lot of talk and opinions about where computers will lead us, but if 40 years ago, we couldn't predict that we'd even have computers today, then how can we possibly predict where we'll be with these marvelous machines, say, 50 years from now?

It's possible to let your imagination judge the future just by looking at some of the tasks and services that are presently available through computers.

For instance, there's a program out for the automated home that will control up to 256 household electrical devices. It could control security systems, thermostats, lights, applicances and any other electrical device in the home.

You've probably heard of home banking, where you can pay bills, move money from one account to another and now there's a company which offers a computer system with which you can buy and sell stocks and bonds and yet another lets you purchase airline tickets.

There's another program that directs the computer to flash messages onto your TV screen as you watch your favorite show. The flashes are so fast that you aren't conciously aware of seeing them. Supposedly a message like "quit smoking" repeated over several hours can actually help you to kick the habit.

These are only three of the dozens of unique things computers are helping us to do now.... so just imagine what the future will bring!

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

## HOW COMPATIBLE IS COMPATIBLE

It's clear that the computer market is being overtaken by certain computer companies. As a result, other manufacturers are developing computers that are compatible with these major types. Computer compatibility means the ability of one type of computer to use programs or information from another.

The vast majority of software programs now being developed are designed to be compatible with two or three major types of micros. This means you should be able to buy an Apple or IBM computer program written for one of the major computers and run it on the compatible machine.

In fact, there are three levels of compatibility to consider when buying a system. The first is operational compatibility. Operationally compatible describes those machines that are so much like the major micros that you can run virtually any of the software designed for these computers. These are the most truly compatible machines, but, of course, no computer could legally be 100% compatible.

The second level is data compatible. This means that while you can't run the programs for these machines, you can read and write data for the compatibles.

The third level is operating system compatibility. This means that the computer uses the same operating system but can not read programs or data from the major micros. While this might not seem to be of much use, you'll usually find that the manufacturers have talked some of the software developers into re-writing their programs to run on your specific machines.

So before you buy a clone, check the degree of compatibility. Check magazines and talk to your computer dealer. If compatibility is important to you, check the programs available for your machine before buying. Otherwise, you could end up with a computer for which there is little software, and without the software you need, a computer of any kind is of little value.

I'm Jim Carroll of Thorne Riddell Chartered Accountants in Halifax.

People often wonder why software for microcomputers can be so expensive. Why do they charge so much?

One of the reasons software is so expensive is due to software copying. Some industry sources estimate that for every software progam that is sold, some eight or nine illegitimate copies are made. This is nothing less than theft.

When you buy software, you have agreed to a license that quite often strictly prohibits you from copying it, yet thousands still copy software.

The software industry has finally decided that it is time to fight back. They are doing so in several ways.

The first is that they have started to come up with more elaborate schemes to prohibit someone from copying a program. Secondly, they can fight back through the courts and the third way they can fight back is to keep developing additional ways to protect their software.

The problem with new methods is that they would tend to make the cost of software even more expensive than it is today.

What will happen? I expect we'll see quite a few more lawsuits. The software industry will keep trying to find ways to protect their software. And maybe the next mega-millionaire will be someone who comes up with a foolproof method to protect the software.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

Microcomputers have been astounding us with what they can do. But that is not to say that the onslaught of the micro revolution has provided everything that was promised. There have been several problems with the use of microcomputers.

One of the most frustrating things in using a typical microcomputer is the problems one could encounter with running different programs. An example will show what I mean. I might use a database program to look up certain information. I would then like to transfer the information that I got from the database into a spreadsheet, that would let me run some financial modelling on the information. Once I have run this, I would like to transfer the information to a word processing program so that I can write my final report.

Can this be done? Sure. Is it fast and easy? No.

I have to keep changing the disks, and transferring from program to program. Sometimes it would be necessary to run the data through a special data transaction routine so that one program would accept the information from another. All of this eats up time, and can be very frustrating.

But one of the more recent developments in the evolution of micros has been the development of what is called integrated software and hardware.

There is new software, and specific computers available, that lets you break up your computer screen into windows. In one window you might have a word processing program running, while in the second you would have a spreadsheet. In the third you could have a database, and if you were really bored, could run a game in the forth window. (You can program a boss is coming key. . . Press it and the game will disappear).

What these windows allow you to do is transfer information very easily. Now I could get the information from the database, and within seconds, transfer it to my spreadsheet and word processor. What used to take several minutes can now take seconds.

Innovation is running very high in the computer industry. With this development recently happening, there is no telling what will be available five years from mow.

I'm Jim Carroll with Thorne Riddell, Chartered Accountants in Halifax.

Within just the last few weeks I've discovered some pretty interesting new developments in microcomputers. Perhaps one of the most interesting is the computer magazine that's actually read by computer. The magazine comes on a floppy disk and you simply put it into the machine and turn it on. At that point the table of contents comes up and you decide what you'd like to read about. There's even a selection for advertising within the magazine.

Along the same lines is the newly developed computer novel, where you can actually read a novel by computer. Currently the only novel available is a romance but I gather that there are several more in the works.

Another interesting area is home banking by computer. Actually, the theory of home banking isn't all that new but recently one of the banks in Halifax announced that it will be making home banking available to its customers. With the home banking service, you'll be able to look at account balances, transfer funds from one account to another to cover those nasty little overdrafts as well as obtain term deposit quotes, foreign exchange rates and more... and you can do it all from the comfort of your home or office with the assistance of your microcomputer.

Technically speaking, there have been some changes as well. Developers and manufacturers continue to make new products which are smaller and easier to use than their predecessors.

There is no doubt that the computer field is changing problably faster than any other. Keeping up with all the changes can be quite a task but learning about unique new developments such as those we've looked at today makes the job a pleasure.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

The movie "War Games" was about a young boy who, with a home computer and a modem, hooked into the Strategic Air Defence computers in the U. S. and unintentionally simulated a Russian attack. Only through the co-operation of the youth and the expert who designed the system was disaster avoided. Shortly after the movie came out, there was an actual case of a group of Milwaukee kids who had actually penetrated the computers of fourteen major organizations. They did it with home computers and modems.

Well . . . that scenario is rather unlikely simply because it wouldn't be the habit of the U. S. Defence Department to use a public phone line, but there is a very high chance that there will be more penetrations into computer systems of companies and organizations who have inadequate security. With proper security, any computer can be protected. Unfortunately, the proper security can sometimes cost too much, or small errors in the system could still allow a professional to find a way in.

The problem doesn't usually exist until a company begins transmitting computer data through public phone lines. It's at this point that the data is susceptible to interception.

It would be easy to stop 95% of the hackers with a password. If they didn't have the proper password, the computer would not allow them to access the data.

But what about the other 5%? Again, there are a countless number of ways to protect the information. One method requires that when the computer system is phoned, it will hang up, and phone back to a prearranged number, to ensure that the individual calling is authorized.

The growing number of microcomputers will surely lead to more small companies beginning to transmit computer data over phone lines, so companies must consider the need for proper security. Lack of security usually stems from poor planning, and proper planning is the key to successfully acquiring and introducing computers smoothly into your operation.

I'm Jim Carroll with Thorne Riddell Chartered Accountants in Halifax.

Computers have been one of the most talked about subjects within the past two years, whether you're at a party, in the office, or with friends, you will hear them being talked about. You will hear those who think computers are the most wonderful machines ever invented, while others say that they think that comupters could lead to an inhuman society. Shades of 1984!

There is a lot of money to be made in microcomputers. For that reason, there is a lot of activity and development going on in mircos. Further, our children are beginning to be brought up with computers playing a significant part in our lives. For these, and other reasons, computers and especially micros, are here to stay.

How will this effect everyone? No one knows. People worry about misuse of computer information, invasion of our privacy because of computers, and all the other problems that might come with them. People worry that they will never use them, that they might fall behind. People worry that computers could change things so much that the way we know life today won't exist in fifty years.

These feelings are justified. There are real concerns with the introduction of computers into society. What we have to do is insure that we are adequately prepared. We have to ensure that our legislators introduce the proper laws controlling computer information. We have to make sure they become a tool not a necessity. We have to make sure that those that use them, do not abuse them.

As with any major change, we have to be involved in their development. Only by doing this can we ensure the computer revolution will be to our benefit.

I'm Jim Carroll with Thorne Riddell Chartered Accountants.

There is no doubt that there's a lot of career potential in computers. With use increasing day after day, companies are finding it increasingly necessary to have more and more computer staff available. For anyone thinking of a career change, computers could be the thing.

But are all computer jobs limited to the strange little men who somehow manage to get these machines to do all those things? No. There is other potential.

What's happening today with careers can itself be astounding. I'm currently a member of a conference on the Source, a communications exchange. Every couple of days I dial into the computer, which is located in Washington D.C. With one command, I can read the responses of all the members of the conference. I have joined a conference that is discussing the career changes already occurring.

The conference was begun by a Los Angeles newspaper editor. He now finds himself responsible for co-ordinating the introduction of micros in his company. This includes training, advising, and generally helping people with problems that they might have. He decided to find out whether there were others who found themselves in the same type of new job. As of yesterday, there were 76 of us from around North America who are doing the same type thing. And the key point is that none of us are computer programmers. There are lawyers, editors, managers, accountants and every other type person. None of us are technical computer specialists. Just your average businesspeople who have found ourselves suddenly in a brand new career. . . a career which is just starting, which is undefined, and which none of us can really predict the future for.